

LIST OF CLAIMS

Claims 1 - 5 (Cancelled)

Claims 6 - 27 (Previously Submitted)

Claims 28 - 40 (New)

6. (Previously submitted) A coupler for continuous drilling while adding or removing tubulars to and from a drill string comprising:

(a) a coupler comprising a fluid sealed housing and means for introducing and evacuating drilling fluid from said housing;

(b) upper slip means for securing said tubular against upward movement;

(c) openable and closeable divider means in said housing defining upper and lower chambers in said housing; and

(d) means for moving said tubular downwardly into rotational contact with said drill string for securing said tubular and said drill string together.

7. (Previously submitted) The coupler of Claim 6 wherein said upper slip means are positioned within said housing.

8. (Previously submitted) The coupler of Claim 6 wherein said upper slip means are positioned outside of said housing.

9. (Previously submitted) The coupler of Claim 6 in combination with a rotary table, and in which said coupler is positioned below said rotary table.

10. (Previously submitted) The coupler of Claim 6 including upper grip means.

11. (Previously submitted) The coupler of Claim 10 including power means for opening said divider means for a distance sufficient for said upper slip means and said upper grip means to pass through said divider means.

12. (Previously submitted) The coupler of Claim 6 wherein said coupler includes means for flushing said housing.

13. (Previously submitted) The coupler of Claim 12 wherein said means for flushing flushes said housing at one time with circulating mud and at another time with air or water.

14. (Previously submitted) The coupler of Claim 6 including means for positioning said coupler under the sea.

15. (Previously submitted) The coupler of Claim 6 including means for rotating an individual tubular and said drill string in relatively opposite directions.

16. (Previously submitted) The coupler of Claim 15 wherein said means for rotating said tubular and said drill string rotate in the same direction at differential speeds.

17. (Previously submitted) The coupler of Claim 6 including upper and lower grip means for gripping said tubular and said drill string respectively.

18. (Previously submitted) A method for drilling wells in which a drill bit is rotated at the end of a drill string comprising tubular members joined together and mud is circulated through the drill string, in which method tubular members are secured against upward movement as they are added to or removed from the drill string, and continuing the circulation of mud while said tubular members are connected or disconnected from said drill string.

19. (Previously submitted) A method as claimed in Claim 18 including the step of sealing the circulating mud from the environment whilst the mud is circulating.

20. (Previously submitted) A method as claimed in Claim 18 in which there is a coupler which connects the tubulars together, and mud at full well pressure is supplied in the immediate vicinity of the tubular connection which is about to be broken such that the flow of mud overlaps with flow of mud flowing

downwardly through the tubular and, as the tubular separates from the drill string, the flow of mud to the separated tubular is stopped.

21. (Previously submitted) A method as claimed in Claim 20 in which the separated tubular is totally separated from the drill string by the closure of a blind preventer or similar device.

22. (Previously submitted) A system comprising:

(a) first and second couplers;

(b) first and second hoist means connected to said first and second couplers for raising and lowering said first and second couplers individually; and

(c) power means for raising and lowering said hoist means for performing hand-over-hand motions of said first and second couplers.

23. (Previously submitted) A system as claimed in Claim 22 wherein said power means raise and lower said first and second couplers and moves them horizontally in alternate steps to perform said hand-over-hand motions of said couplers.

24. (Previously submitted) An assembly for connection or disconnection a tubular to or from a drill string comprising:

(a) a well head;

- (b) a BOP stack mounted above said well head;
- (c) a coupler mounted above said BOP stack;
- (d) said coupler comprising a fluid-tight chamber;
- (e) an upper annular preventer;
- (f) upper grip means for engaging a tubular and lower grip means for engaging a drill string;
- (g) a blind ram preventer or diverter positioned in said chamber;
- (h) lower grip means and slip means for engaging a drill string to which said tubular is to be connected; and
- (i) a lower annular preventer.

25. (Previously submitted) The assembly as claimed in Claim 24 wherein said housing includes fluid entry means for supplying drilling fluid into said housing and through said drill string continuously during connecting and disconnecting said coupler.

26. (Previously submitted) The assembly of Claim 25 wherein said upper and lower grip means are located with said housing.

27. (Previously submitted) The assembly of Claim 25 wherein said upper and lower grip means are located outside of said housing.

28. (New) A system comprising:

- (a) first and second couplers;

(b) first and second hoist means connected to said first and second couplers for raising and lowering said first and second couplers individually;

(c) power means for raising and lowering said hoist means for performing hand-over-hand motions of said first and second couplers;

(d) each of said first and second couplers including fluid sealed housings and means for introducing and evacuating drilling fluid from said housings;

(e) upper slip means for securing a tubular against upward movement;

(f) openable and closeable divider means in said housings defining upper and lower chambers in said housing; and

(g) means of moving said tubular downwardly into rotational contact with said drill string for securing said tubular and said drill string together.

29. (New) The system of Claim 28 in combination with a rotary table, and in which said coupler is positioned below said rotary table.

30. (New) The coupler of Claim 28 including power means for opening said divider means for a distance sufficient for said upper slip means and said upper grip means to pass through said divider means.

31. (New) The coupler of Claim 28 including means for rotating an individual tubular and said drill string in relatively opposite directions.

32. (New) The coupler of Claim 31 wherein said means for rotating said tubular and said drill string rotate in the same direction at differential speeds.

33. (New) The coupler of Claim 28 including upper and lower grip means for gripping said tubular and said drill string respectively.

34. (New) A system comprising:

(a) first and second couplers;

(b) first and second hoist means connected to said first and second couplers for raising and lowering said first and second couplers individually; and

(c) power means for raising and lowering said hoist means for raising and lowering said first and second couplers and move them horizontally in alternate steps to perform hand-over-hand motions of said couplers.

35. (New) The system of Claim 34 including:

(a) a well head;

(b) a BOP stack mounted above said well head;

- (c) said couplers comprising fluid-tight chambers;
- (d) each coupler including an upper annular seal;
- (e) each coupler including upper grip means for engaging a tubular and lower grip means for engaging a drill string;
- (f) each coupler including divider means forming two portions in said chamber;
- (g) each coupler including lower grip means and slip means for engaging a drill string to which said tubular is to be connected and lower annular preventers.

36. (New) A system comprising:

- (a) first and second couplers;
- (b) first and second hoist means connected to said first and second couplers for raising and lowering said first and second couplers individually; and
- (c) power means for raising and lowering said hoist means, and moving them horizontally for performing hand-over-hand motions of said first and second couplers.

37. (New) The system of Claim 36 wherein each of said first and second couplers include sealed housings and means for introducing drilling fluid into said housing.

38. (New) The system of Claim 37 upper slip means for securing a tubular against upward movement.



39. (New) The system of Claim 38 wherein each of said couplers include openable divider means and power means for opening said divider means a distance sufficient to pass said upper slip means.

40. (New) The system of Claim 36 in combination with:

- (a) a well head;
- (b) a BOP stack mounted above said well head;
- (c) said couplers comprising fluid-tight chambers;
- (d) each coupler including an upper annular preventer;
- (e) upper grip means for engaging a tubular and lower grip means for engaging a drill string;
- (f) blind ram preventers or diverters positioned in said chambers;
- (g) each coupler including lower grip means and slip means for engaging a drill string to which said tubular is to be connected and lower annular seals.